1-9. On page 8, at paragraph 17, of Exhibit B to James Wilson's direct testimony, it states as follows:

> If the flaws I have identified were even partially corrected, the 14.5% summer planning reserve margin that was in place until the 2016 IRP, which would provide a 16.5% winter reserve margin, would be more than adequate.

a. Please provide all workpapers and analysis conducted to support this reserve margin recommendation.

RESPONSE:

a. CCL, et al. object to this request because the quoted portion of Mr. Wilson's testimony did not purport to recommend a specific reserve margin. Notwithstanding said objection, no responsive workpapers exist. With regard to supporting analysis, if the flaws identified in the Wilson Report were corrected, the summer and winter planning reserve margins would be much lower, as explained as follows.

1. The main flaw in the RA Studies that has a substantial impact on the reserve margin is the inaccurate extrapolation used to estimate loads under the most extreme cold. There is no sensitivity analysis available to reveal the impact of these assumptions or the reserve margins associated with more reasonable assumptions.

   The sensitivity analysis using historical weather data from 1990 to 2018 lowered the reserve margin by 2.75% for DEC and 4.5% for DEP, respectively (Wilson Report p. 25, citing to Duke Energy Response to Data Request SELC 3-4, which refers to the file "AG

Office Follow-up Items_062520_Final.docx," one of the 2020 RA Study support documents). This sensitivity analysis does not correct the main flaw at all, it merely mitigates its impact. But this sensitivity analysis shows that the assumptions about loads under extreme cold have a very large impact on the reserve margins.

Mr. Wilson's analyses shown in Figures JFW-1 and JFW-2 show that focusing the regressions on lower temperatures substantially reduces the assumed impact of additional cold on load. For DEC, his estimate is more than 80 MW/degree lower than the value used in the RA Study (132.9 MW rather than 216.6MW); at the ten degree level, this translates to roughly 800 MW lower load (800 MW x (20-10) degrees), or over four percent of the DEC peak load. Correcting this assumption would lower the reserve margin by nearly this amount, since loads most scenarios with extreme cold were adjusted based on the extrapolation.

For DEP, the RA Study uses an even more extreme value for the extrapolation (263 MW/degree); using the value from Figure JFW-2, 99.5 MW/degree, would lower loads at the 12 degree level by over 1,200 MW, or close to eight percent of the DEP winter peak load. Again, correcting this assumption would lower the reserve margin by a large fraction of this percentage.

2. In addition, the sensitivity analysis that removed the cold weather outages showed that this lowered the DEP reserve margin by 0.75%

and the DEC reserve margin by 1.25%. DEP RA Study p. 54, DEC RA Study p. 54. So if instead of 400 MW a value closer to 200 MW were assumed, as Mr. Wilson recommended, this would lower the reserve margin by roughly 0.5%.

1-10. On page 12, at paragraph 27, of Exhibit B to James Wilson's direct testimony, it states as follows:

> In addition, the winter peak loads under extreme temperatures typically occur in the 7 to 9 AM time frame; under the very rare extreme cold conditions, some schools, offices, and other commercial, government and industrial facilities may open late, remain closed, or operate at reduced levels, reducing loads during the early morning peak on such days.

a. Please provide all workpapers and analysis conducted to support this reserve margin recommendation.

RESPONSE:

a. CCL, et al. object to this request because there is no reserve margin recommendation in the quoted statement. Notwithstanding said objection, the statement regarding the typical hours of winter peak cites to the Winter Peak Study. No responsive workpapers exist.

1-11. On page 36, at paragraph 89, of Exhibit B to James Wilson's direct testimony, it states as follows:

> The DEC RA Study assumed 1,122 MW of summer demand response and 461 MW of winter demand response (p. 37). An additional 500 MW of winter demand response would eliminate 60% of the winter load loss events in the simulations; 1,000 MW would eliminate 85%, allowing a considerably lower winter reserve margin and shifting resource adequacy risk toward summer. The DEP RA Study assumed 1,001 MW of summer demand response and 442 MW of winter demand response (p. 37). An additional 500 MW of winter demand response on the DEP system would eliminate